

Title: JP06111828A2: FUEL ELECTRODE MATERIAL FOR FUEL CELL, AND MANUFACTURE THEREOF

Derwent Title: Fuel pole material for methanol family - obtd. by vapour depositing ferrous elements at least one of titanium, zirconium, niobium, tantalum, platinum gp. elements [\[Derwent Record\]](#)

Country: JP Japan

Kind: A

Inventor: KUROSAWA SUSUMU;

Assignee: MITSUBISHI MATERIALS CORP
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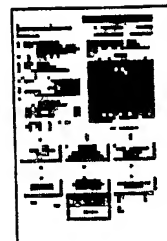
Abstract: PURPOSE: To make catalytic activity to the oxidation of metanol higher than that in platinum black, provide sufficient corrosion resistance and durability under use environment and an optional size or shape integrated with a catalyst carrier, and eliminate corrosion or separation, etc., in the interface of the catalyst carrier.

CONSTITUTION: Fuel electrode material 10 for a fuel cell is provided with metal base material 11 and an amorphous alloy layer 12 formed on the surface of the metal base material 11. In the amorphous alloy layer 12, either or both nitrogen or oxygen is contained in the alloy of the iron family elements of one kind or two kinds or more, the metal family of one kind or two kinds or more, selected from Ti, Zr, Nb, and Ta, and platinum family elements of one kind or two kinds or more; and the surface of the amorphous alloy layer 12 is activation-treated. An ion implantation layer 13, having an element or elements of one kind or two kinds or more selected from Ti, Zr, Nb, Ta, and the iron family elements, can be formed on the interface between the metal base material 11 and the amorphous alloy layer 12.

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Family: None

Other Abstract: DERABS C94-171033 DERC94-171033



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Fuel pole material for methanol family - obtd. by vapour depositing ferrous elements at least one of titanium, zirconium, niobium, tantalum, platinum group elements

Patent Assignee: MITSUBISHI MATERIALS CORP (MITV)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 6111828	A	19940422	JP 92280984	A	19920925	199421 B

Priority Applications (No Type Date): JP 92280984 A 19920925

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 6111828	A		12	H01M-004/86	

Abstract (Basic): JP 6111828 A

The fuel pole material is made by vapour depositing ferrous elements, one or more of Ti, Zr, Nb, and Ta, and one or more of Pt-group elements on the surface of a metal matrix in an atmosphere containing one or more of N₂ and O₂, simultaneously irradiating one or more of ions of ferrous elements, metal elements, Pt-group elements, or inert gas by ion mixing, to form an amorphous alloy layer, and activating the surface of the amorphous alloy layer.

USE - For fuel pole material best suited to fuel cells using methanol, formaldehyde, or formic acid, as a methanol family fuel.

Dwg.1/2

Title Terms: FUEL; POLE; MATERIAL; METHANOL; FAMILY; OBTAIN; VAPOUR; DEPOSIT; FERROUS; ELEMENT; ONE; TITANIUM; ZIRCONIUM; NIOBIUM; TANTALUM; PLATINUM; GROUP; ELEMENT

Derwent Class: L03; X16

International Patent Class (Main): H01M-004/86

International Patent Class (Additional): C23C-014/16; H01M-004/88; H01M-004/90

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Manual Codes (EPI/S-X): X16-E06A

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